Case 3626

Phoronis Wright, 1856 (Phoronida) and *P. muelleri* Selys Longchamps, 1903: proposed conservation of both names

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Abstract. The purpose of this application, under Article 81.2.3, is to conserve the generic name *Phoronis* Wright, 1856 and the specific name *Phoronis muelleri* Selys Longchamps, 1903 in their accustomed use. Both names are well known and included in all major textbooks on zoology and in hundreds of papers. However, a parallel set of older names, *Actinotrocha* Müller, 1846 and *A. branchiata* Müller, 1846 (and other 'species of *Actinotrocha*') are very often used in papers on phoronid larvae, so the conditions for reversal of precedence using Article 23.9.1.1 are not met. The name *Phoronis* is the base for the names PHORONIDAE, Phoronidea and Phoronida in various uses for the family, order, class, and phylum dating from Hatschek (1888). A strict application of the Principle of Priority would create confusion, and the Commission is therefore asked to use its plenary power to suppress the generic name *Actinotrocha* Müller, 1846 and the specific epithet *branchiata* Müller, 1846 (as published in the binomen *Actinotrocha branchiata*) for the purposes of the Principle of Priority.

Keywords. Nomenclature; Phoronida; *Phoronis*; *Phoronis muelleri*; *Phoronis hippocrepia*; *Actinotrocha*; *Actinotrocha branchiata*; horseshoe worms.

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1. Müller (1846, p. 101) described a new pelagic organism and gave it the name *Actinotrocha branchiata*. He was uncertain about the affinities of the animal. He rejected relationships with mollusc larvae, but hinted at a relationship to rotifers. Similar larvae were subsequently reported by a number of authors.

2. Wright (1856, p. 316) described two 'tubicolar animals' which he named *Phoronis hippocrepia* and *P. ovalis*. He was uncertain about the systematic position of the genus, but suggested that they should belong to the Annelida. A type species of the new genus was not mentioned, but the first-mentioned species was described first and in some more detail than the second. There seems to be no designation of a type species in the literature, so I hereby designate *Phoronis hippocrepia* Wright, 1856 as the type species of the genus *Phoronis* Wright, 1856.

3. Both Krohn (1858) and Schneider (1862) observed that some specimens of *Actinotrocha branchiata* went through a metamorphosis into a 'worm' which they compared with a sipunculan.

4. Kowalevsky (1866, footnote p. 5; see also Leuckart, 1867, pp. 235–238) was the first to link the metamorphosed *Actinotrocha* to the adult *Phoronix* (sic).

5. Since then, a few actinotrocha larvae have been described and in some cases been given separate names, but they have now all been assigned to adult species of one of the two phoronid genera *Phoronis* or *Phoronopsis*.

6. Selys Longchamps (1903, p. 9) described *Phoronis muelleri* (spelled *Mülleri*) and demonstrated that *Actinotrocha branchiata* is the larva of this species.

7. *Phoronis* is the base for the names of the family PHORONIDAE, the order, class and phylum Phoronidea/Phoronida, in principle all dating from Hatschek (1888, p. 40), who introduced Phoronida as a class name.

8. Over the last century, almost all authors of individual papers and textbooks on this phylum have used the genus name *Phoronis* and the species name *P. muelleri* (variously spelled *mülleri* or *mulleri*), but the larval names are very often mentioned as *Actinotrocha* in the Latin form and with the author name, so both types of names have been in constant use. The larval names are clearly available according to Article 17.3 in the Code.

9. Silén (1952, footnote on pp. 95–96) summarized the problem very clearly:

'In fact, according to Article 27 of the International Rules of Zoological Nomenclature *Ph. mülleri* Selys-Longchamps 1903 ought to have been called *Ph. branchiata* Müller, its larva having been described by Müller in 1846 as *Actinotrocha branchiata*. Still worse, the generic name *Phoronis* Str. Wright 1856 ought to be suppressed on behalf of *Actinotrocha*. Poche (1903 and 1908) has pointed out these facts. However, Poche has never done any research of his own on the phoronids, and the names *Phoronis* and *Ph. branchiata* have been so universally adopted by the workers on the group, *Actinotrocha* and *A. branchiata* being exclusively used as technical names of larval forms, that a strict application of the Rules to this case would cause a most embarrassing disorder. In order to eliminate the risk of future confusion the present author has therefore, on the advice of Dr. Henning Lemche, Copenhagen, member of the International Commission of Zoological Nomenclature, applied to the Commission that *Actinotrocha* and *A. branchiata* be suppressed as official names on behalf of *Phoronis* and *Ph. mülleri*.'

In fact the Commission has no record of any such application, but the arguments are still valid.

A number of authors, for example Bartolomaeus (2001, p. 135, footnote) have advocated following the common usage of the 'adult' names and treating the larval names as technical names, but since both set of names have been in continuous use, this is not in accordance with the Code.

The acceptance of *Phoronis* as the valid genus name will legalize the stable use of the name in all textbooks and papers dealing with the adult worms for more than a century. It will bring the term actinotrocha in line with the use of other larval names, such as the planktonic nemertean larvae, which are called pilidium (it appears that none of the pilidium larvae described from the plankton has been linked to an adult species), and the planktotrophic bryozoan larvae, which are called cyphonautes (for example cyphonautes compressus, the larva of *Electra pilosa*). An acceptance of the name *Actinotrocha* would cause considerable confusion, because the vast majority of the previous literature has used *Phoronis*.

The databases 'Encyclopedia of Life' (EOL) and 'World Register of Marine Species' (WoRMS) will both have to be revised whatever decision is taken, because their present formats are not in accordance with the Code as they use both sets of names.

10. The International Commission on Zoological Nomenclature is accordingly asked:
(1) to use its plenary power to suppress for the purposes of the Principle of Priority, but not for those of the Principle of Homonymy the following names:
   (a) *Actinotrocha* Müller, 1846;
   (b) *branchiata* Müller, 1846, as published in the binomen *Actinotrocha branchiata*;
(2) to place on the Official List of Generic Names in Zoology the name *Phoronis* Wright, 1856 (gender: feminine), type species *P. hippocrepia* Wright, 1856 (as designated above in para. 2);
(3) to place on the Official List of Specific Names in Zoology the following names:
   (a) *muelleri* Selys Longchamps, 1903, as published in the binomen *Phoronis muelleri*;
   (b) *hippocrepia* Wright, 1856, as published in the binomen *Phoronis hippocrepia*;
(4) to place on the Official Index of Rejected and Invalid Generic Names in Zoology the name *Actinotrocha* Müller, 1846, as suppressed in (1)(a) above;
(5) to place on the Official Index of Rejected and Invalid Specific Names in Zoology *branchiata* Müller, 1846, as published in the binomen *Actinotrocha branchiata* Müller, 1846, as suppressed in (1)(b) above.

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Constructive comments from Dr Thomas Pape (*Natural History Museum of Denmark, Copenhagen*) are greatly appreciated.

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).